Aligning Workforce Education Systems and Making Credentials Matter

SOUTH CAROLINA EDUCATION OVERSIGHT COMMITTEE

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Career and Technical Education

Preparing Learners for Success in the Workforce

America's Skills Gap What Employers Need and Our Workforce Does Not Fulfill

Manufacturing Workers	Cybersecurity Professionals	Registered Nurses	Skilled Welders	Allied Health Worker	Software Engineering
2 million jobs currently available	**2** million global jobs by 2019 **209,000** jobs available now	**1.2** million vacancies between 2014-2022	**290+K** jobs currently available	UP TO **2.5** million worker shortage by 2020	**3** openings in software engineering for every 1 computer science college graduate.

Career and Technical Education: Fast Facts

✓ ***CTE serves as the primary framework and source of funding for high school career pathways across the nation.*** Even recent innovative local initiatives and school models depend on this framework and its associated investments for long-term program stability and success.

✓ In addition to the annual federal investment (over $1 billion for secondary and postsecondary students via Perkins) in CTE, 47 states provide dedicated funding to support CTE programs and instruction.

✓ During the 2016–17 school year, 98 percent of public school districts offered CTE programs to students at the high school level. Over 8 million high school students were enrolled in CTE programs in states across the nation (over half of all students attending high school).

✓ Nationally, graduation rates for CTE "concentrators" are about 93 percent – 10 percent higher than the national average.

Career Growth Projection and Earnings

Not all pathways and credentials lead to middle- and higher-wage careers with opportunities for continued advancement; some pathways lead students to dead-end jobs.

	Floral Design	Hairdressers, Hairstylists and Cosmetologists	Licensed Practical or Vocational Nurse	Computer Support Specialist	Food Preparation and Serving Workers	Automotive Service Technicians and Mechanics
Associated Credentials	License, Certification	License	License	Certification	Certification	Certification
Employment # (2016)	55,000	617,300	724,500	835,400	3,452,200	749,900
Median Pay (2017)	$26,350	$24,850	$45,030	$56,275	$20,180	$39,550
Projected Growth (2016-26)	-6%	13%	12%	10%	17%	6%

U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, 2017

License   Certification

No Dead Ends

Photo courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

To ensure that there are no dead ends for students, states must look at the entirety of their career and technical education programs when advocating for high-quality, aligned programs.

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Achieving a High-Quality CTE Program:
Comprehensive Approach

Reciprocating Engagement and Communication Among Key Stakeholders

State K-12 Education ▶ State Postsecondary Education ▶ State Economic & Workforce ▶ Employers ▶ High-Quality CTE Program
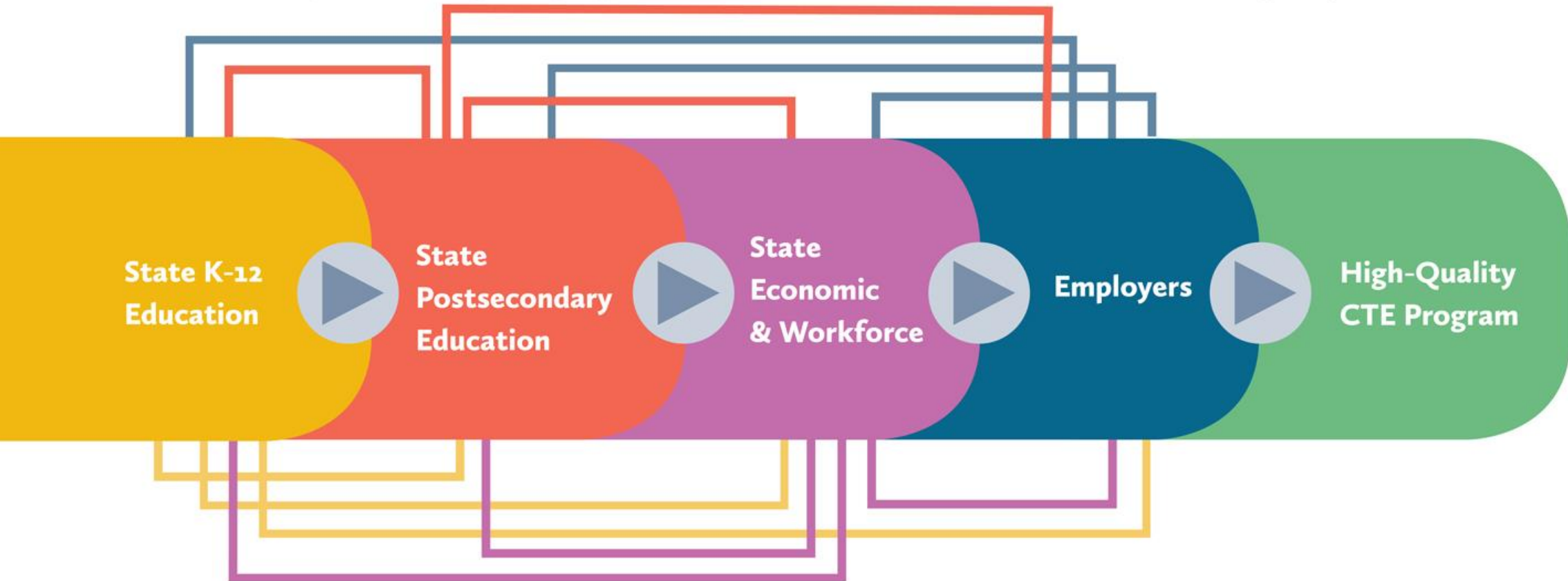
Aligning State Career and Technical Education Programs with Industry Needs and Priorities

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Addressing Issues of Alignment & Quality

1. ## Alignment to State and Regional Workforce Demand
   CTE programs can no longer continue to offer a "buffet" of options or only what current district and school staff can support (or have always offered). This includes phasing out CTE pathways that lead to low-skill and low-paying employment opportunities – and filling gaps in pathways aligned with workforce demand and middle- and higher wage careers.

2. ## High Quality, Rigorous Academic and Technical Skills Preparation
   Preparing students for a career means providing them with the skills, knowledge, and experiences that will ensure success in postsecondary and advanced career training programs. This requires a comprehensive evaluation of the outcomes of existing courses and vertical linkages to credentials, postsecondary and employment.
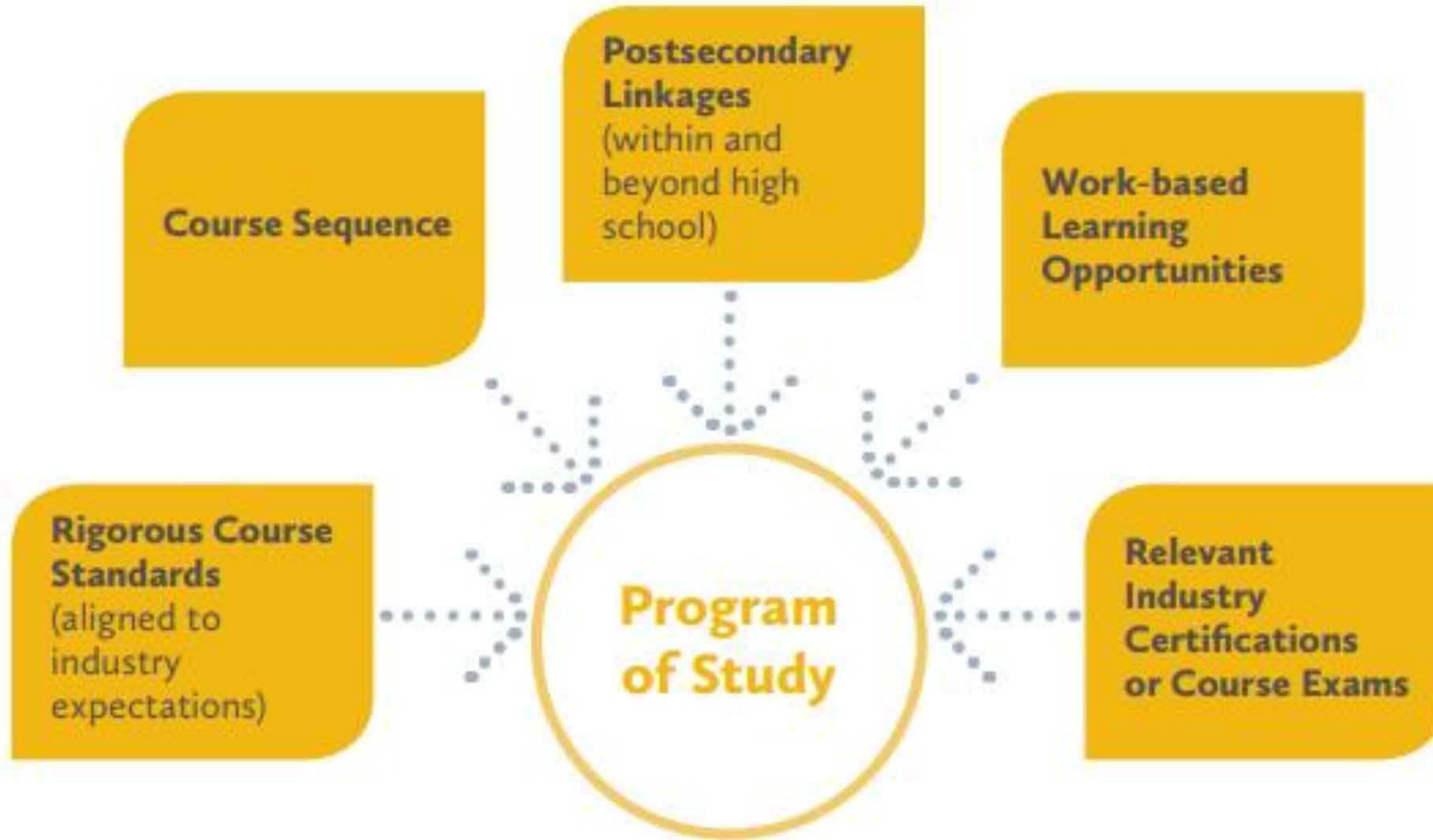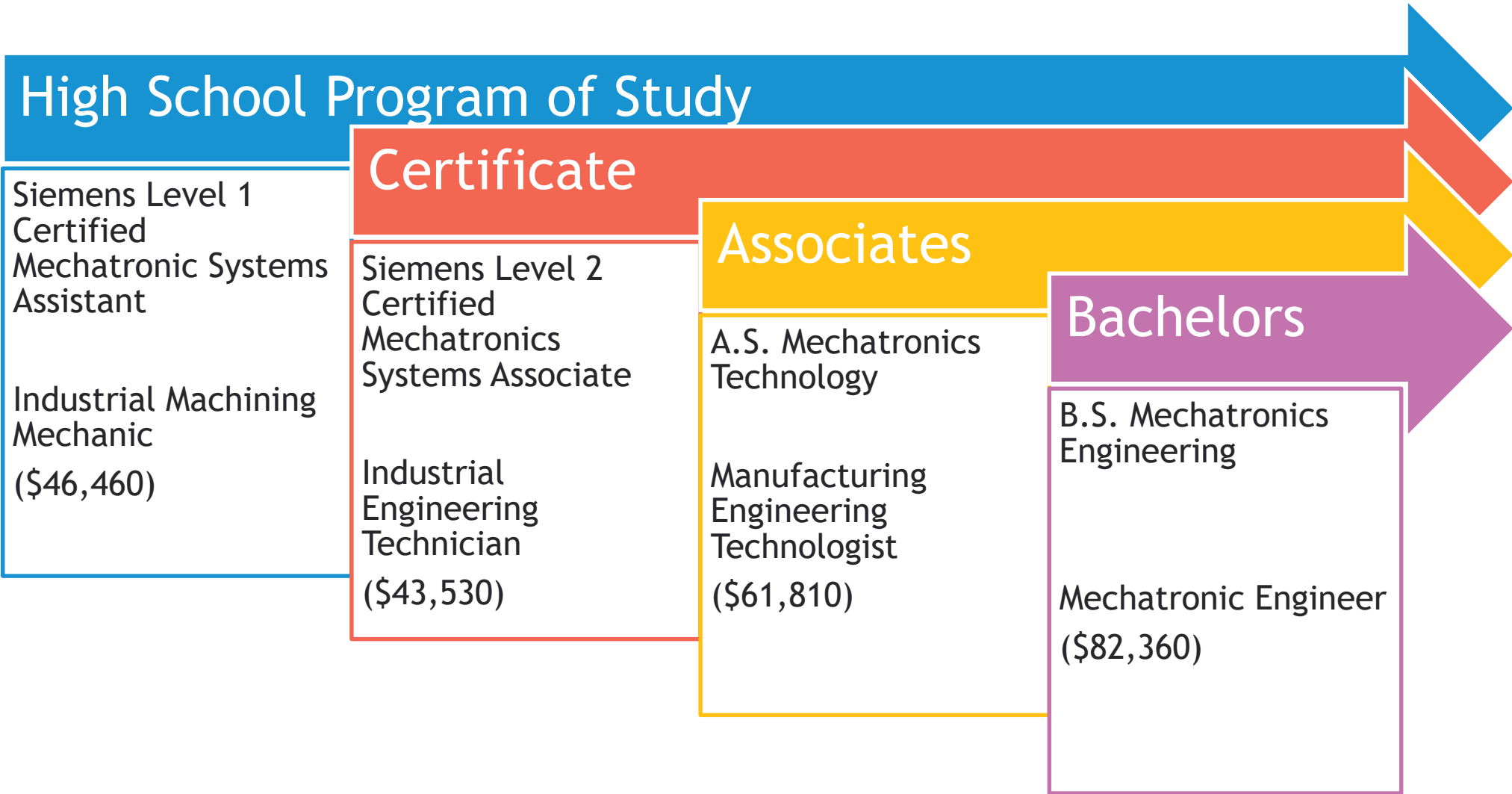
High-Quality State CTE Programs
Non-Negotiables for Policymakers

1 All promoted programs of study align with state and/or regional industry and labor market data.

2 Programs of study incorporate experiential learning and capstone experiences valued by industry.

3 Secondary programs of study vertically align with postsecondary programs.

4 Courses are sequential and progressive in a given program of study.

5 Secondary programs of study incorporate courses and exams eligible for postsecondary credit or hours where appropriate.

6 Course standards are robust and accurately represent the academic, technical and employability skills learners must master.

7 Educators receive ongoing, progressive training and professional development to ensure their instruction is reflective of course standards and current industry work environments.

8 Federal, state and local funding are utilized to leverage and drive programmatic changes leading to the implementation of vertically aligned education-to-career learning pathways.

High School Program of Study

Siemens Level 1 Certified Mechatronic Systems Assistant

Industrial Machining Mechanic

($46,460)

Certificate

Siemens Level 2 Certified Mechatronics Systems Associate

Industrial Engineering Technician

($43,530)

Associates

A.S. Mechatronics Technology

Manufacturing Engineering Technologist

($61,810)

Bachelors

B.S. Mechatronics Engineering

Mechatronic Engineer ($82,360)

Source: Tennessee Department of Education

Rethinking State CTE Programs: Three Steps to Consider

1

Conduct a CTE Program Audit
Convene partners across K-12, postsecondary and workforce/industry to prioritize state needs. Analyze existing program offerings and outcomes to evaluate whether they reflect state economic goals.

2

Make Necessary Changes in Program Offerings
Eliminate "dead ends," update existing pathways to reflect industry standards, and develop new programs of study that will foster economic mobility and prosperity.

3

Incentivize Outcomes
Provide financial incentives for success, such as student attainment of high-quality industry certifications.

- Dual credit or concurrent enrollment course data related to CTE programs of study

- Industry-recognized certification attainment

- Statewide or regional labor market information for each career cluster or program of study

- Data highlighting any gaps in access to or equity of promoted programs of study

- Data related to completion of work-based learning activities

- Survey data from students and parents related to program activities and experiences

- Outcome data for graduates, such as postsecondary attainment and employment information tied to completed programs of study

Program Planning

1. States are encouraged to invest in early postsecondary opportunities.

2. The state planning process requires more stakeholder collaboration and review.

3. Local recipients must complete (and update) new Local Comprehensive Needs Assessments.

Program Funding

4. States and local recipients have more flexibility in how they spend Perkins funds.

5. States can invest more in innovation through "Perkins Reserve."

Program Impact and Accountability

6. There is a new definition of CTE concentrator.

7. States must choose among three new measures of secondary CTE program quality.

8. States determine their own accountability goals and performance targets.
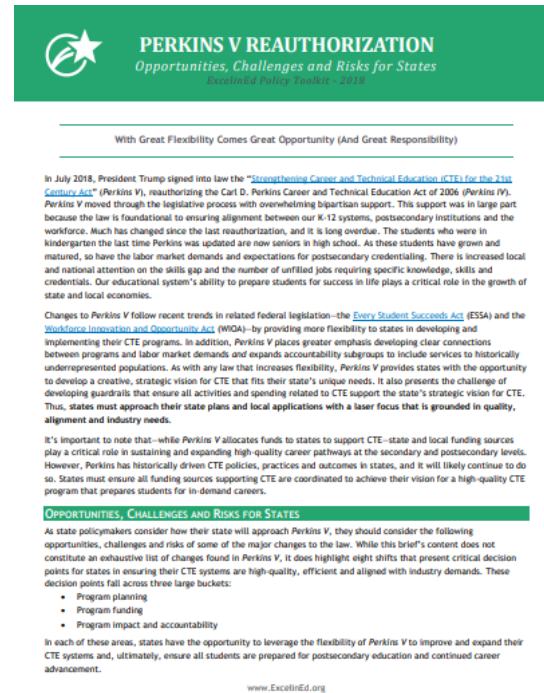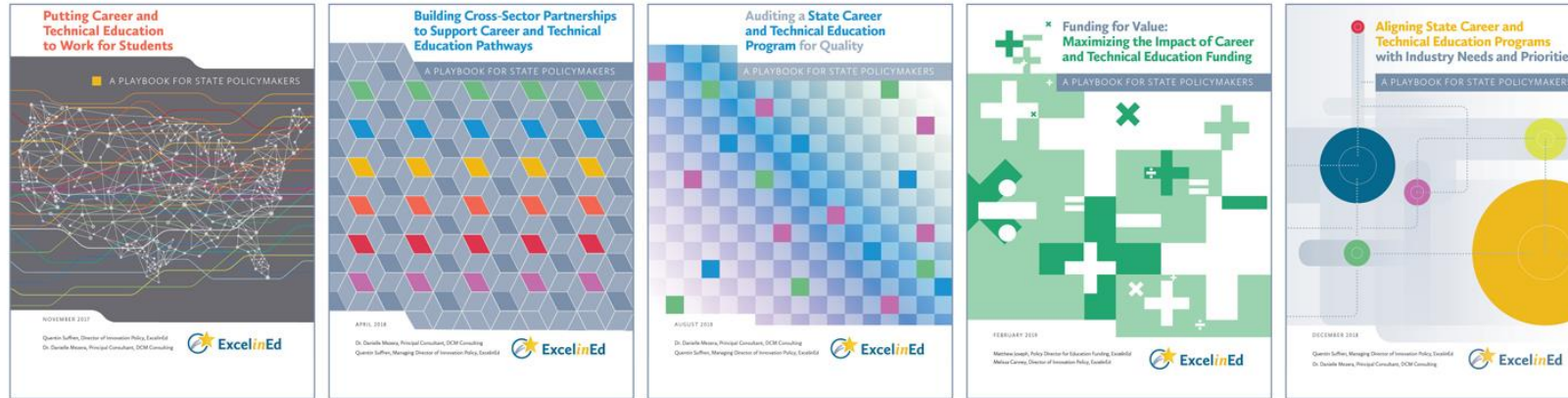
ExcelinEd's **Career and Technical Education playbook** series offers specific steps to help states improve learning and outcomes for their students.

View the complete series

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Credentials Matter Project

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Credentials Matter Research

Industry-recognized credentials are a critical outcome of education to workforce training.

But are high school students earning credentials valued by employers?

50-state Analysis & Interactive Online Map

- How many states are collecting data on student credential attainment and what methods are they using?

- How do these credentials align with labor market demand?

State Case Studies on Long-Term Outcomes

- Do students who earn specific industry credentials have differential outcomes in terms of postsecondary attainment, employability, and wage earnings?

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Credentials Matter Resources
Released May 2019

1 **Credentials Matter Website**
Allowing policymakers and practitioners an opportunity to explore credential attainment and alignment with employer demand

2 **Credentials Matter: National Report**
Presenting findings of the 50-state scan of credentials offered and earned in CTE

3 **Where Credentials Meet the Market: State Case Studies**
Examining long-term outcomes associated with industry credential attainment: Florida, Kentucky and Indiana

What are Industry Credentials?

Awarded by a third-party vendor, industry association, or trade group often as part of a CTE program.

Includes an examination process assessing whether an individual has acquired knowledge and skills necessary to perform the job.

The certification and/or underlying skillset is demanded by employers in high-growth, high-skill, and in-demand occupations.

Supply - *Credentials earned as reported by states*

- Received data from 24 states
- Majority of data collection is secondary, so only considering credentials earned in secondary
- Latest year of data available included (2016-17 or 2017-18)

Demand - *Job postings data sourced from Burning Glass Technologies*

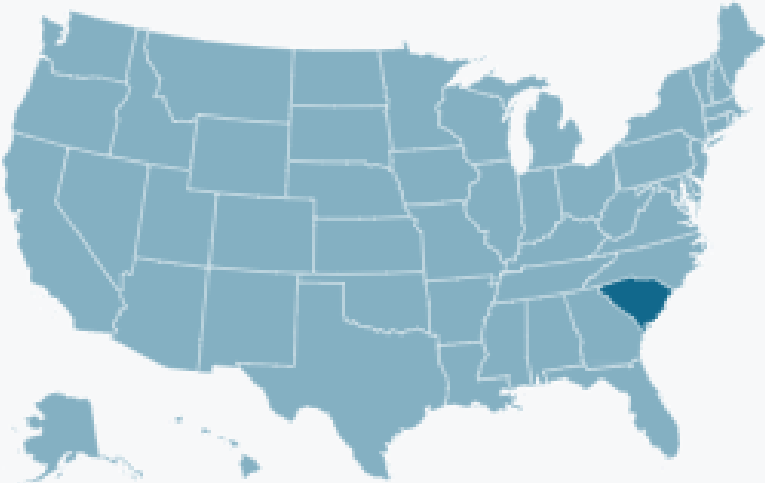- Demand data limited to occupations paying at least $15 per hour

State Alignment

- What percent of credentials earned are in demand?
- What percent of credentials demanded are supplied?
- Data collection process

High School Enrollment ⓘ

222,400	21,450	9.6%	9,727
Total Students Enrolled in HS	Total CTE Concentrators	Percent CTE Concentrators	Total Credentials Earned

Alignment Category ⓘ

Low Alignment

Indicators of Data Collection and Quality ⓘ   SC

Secondary data are collected	✓
Postsecondary data are collected	○
Data are collected directly from vendors	○
Credentials are included in ESSA plan	✓
State has adopted a credential incentive policy	✓

Years of Data Available ⓘ

—— 2

2003   2005   2007   2009   2011   2013   2015   2017   2019

School years

3

Major Findings

FINDING: Only 28 states collect quantitative data on the attainment of credentials.

Meaning only half of all states can analyze the credentials their students are earning and evaluate whether those credentials align with their state's employer demands.

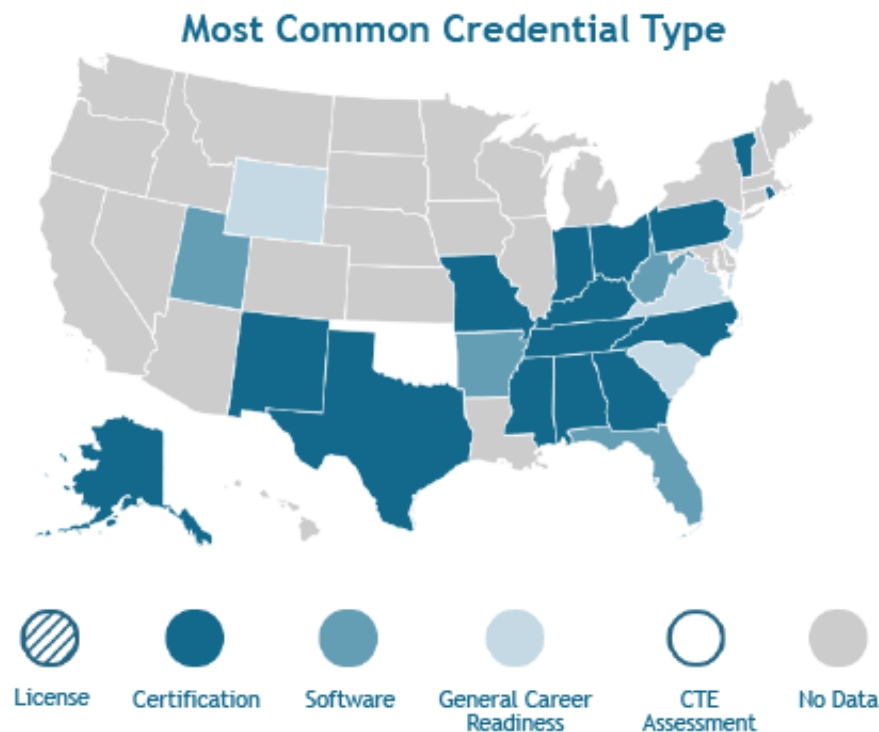No Data   List   Secondary   Secondary And Postsecondary
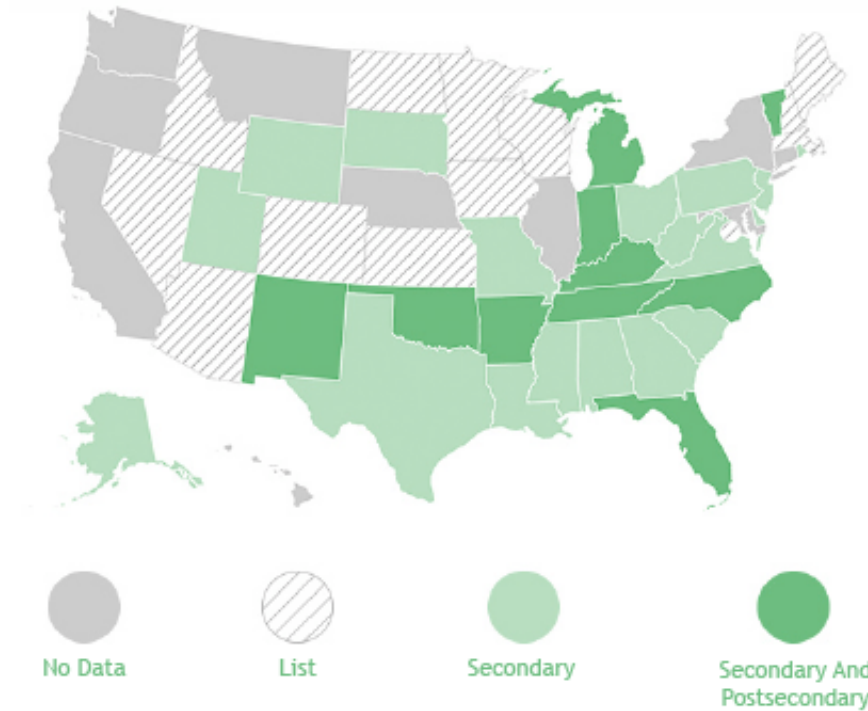
Of the states that do collect data, most rely on self-reported data from schools or districts.

Data collection processes are often inconsistent across secondary and postsecondary systems within the same state.

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FINDING: States do not have consistent definitions for what constitutes an industry-recognized credential.

Many states do not have criteria to ensure the credentials offered are truly industry-recognized and/or valued.

Most Common Credential Type

Legend:
- License (hatched)
- Certification (dark blue)
- Software (medium blue)
- General Career Readiness (light blue)
- CTE Assessment (white)
- No Data (gray)

States promote and include measures of knowledge and skills in their industry-recognized credential lists that are not valued by employers.

Though often focused on important underlying competencies or a valuable measure of program quality, CTE Assessments should not be considered industry-recognized credentials because they are not valued by employers.

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Efforts to credential students vary across states and the different types of credentials offered

Some states have clear criteria that include workforce demand for identifying their promoted credentials. Other states include almost any measure of career-related knowledge even though certain types of credentials, while perhaps representing important skills, carry little to no weight in the labor market

Typology		Credentials Demanded by Employers	Credentials Earned by Students	South Carolina
License		21%	1%	1%
Certification		16%	43%	27%
Software		64%	25%	21%
General Career Readiness		0%	28%	47%
CTE Assessment		0.1%	3%	3%

Note: Columns may not sum to 100 due to rounding.

FINDING: No state is highly aligned in terms of supply for credentials earned by high school students and the demand for those credentials in the job market.

Only 19% of the credentials earned by K-12 students are demanded by employers in the United States.

No Data   Low Alignment   Moderate Alignment   High Alignment
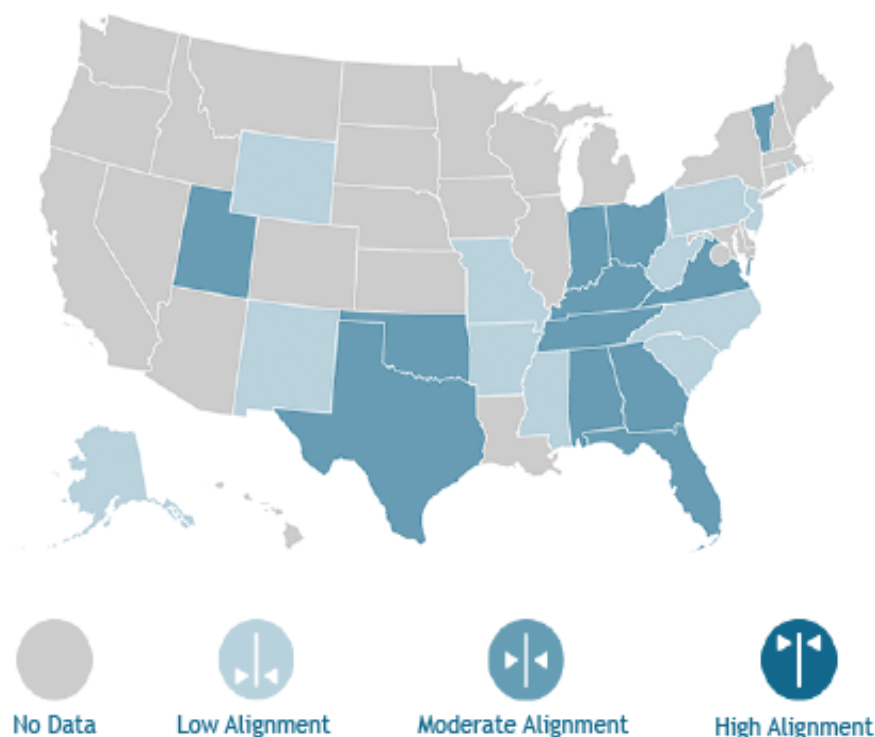
Oversupply of credentials not demanded in the labor market is the most significant source of misalignment.

Of the top 15 credentials earned, 10 are entirely oversupplied, meaning in every state with data more students are earning them than there is demand for them.

Of the nine Licenses being earned by students in K-12, only four have any demand in occupations that command a living wage.

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Over half of the most commonly earned credentials are oversupplied.
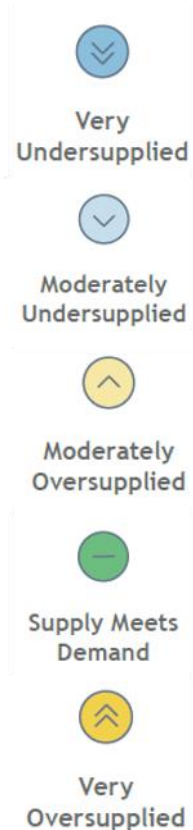
	Rank	Credential	Credential Type	Credentials Earned	Percent Oversupplied	Supply/Demand Category	State Count
	1	Microsoft Office Specialist	🖥	129,895	--	⦨	19
	2	W!SE Financial Literacy Certification	💼	67,208	100%	⦧	7
	3	NCCER - Core Curriculum	⚙	60,350	100%	⦧	12
	4	Adobe Certified Associate	🖥	52,189	78%	⊖	19
	5	Virginia Workplace Readiness Skills for the Commonwealth	💼	42,313	100%	⦧	1
	6	Basic First Aid	💼	36,102	100%	⦧	11
	7	NCCER - Carpentry	⚙	33,392	100%	⦧	14
	8	IC3 Certification	💼	22,840	100%	⦧	13
	9	Automotive Service Excellence Certification	⚙	22,726	16%	⦨	24
	10	ServSafe Certification (Manager/ Food Handler/Allergens/Alcohol)	⚙	21,634	47%	⌄	20

Legend:
- ⦨ Very Undersupplied
- ⌄ Moderately Undersupplied
- ^ Moderately Oversupplied
- ⊖ Supply Meets Demand
- ⦧ Very Oversupplied

Many certifications hold the keys to good careers. Yet, all of the most demanded certifications are undersupplied.

Legend:
- ⌄⌄ Very Undersupplied
- ⌄ Moderately Undersupplied
- ⌃ Moderately Oversupplied
- − Supply Meets Demand
- ⌃⌃ Very Oversupplied

Rank	Credential	National Demand	Percent Undersupplied	Supply/Demand Category	Median Salary
1	Certified Medical Assistant	181,281	100%	⌄⌄	$31,235
2	Automotive Service Excellence Certification	170,866	34%	⌄⌄	$44,269
3	Certified Pharmacy Technician	142,835	100%	⌄⌄	$32,344
4	ServSafe Certification (Manager/Food Handler/Allergens/Alcohol)	92,757	41%	⌄	$31,617
5	CompTIA Security+	76,409	100%	⌄⌄	$82,296
6	Cisco Certified Network Associate	70,466	100%	⌄⌄	$81,480
7	CompTIA A+	70,101	100%	⌄⌄	$43,226
8	Certified EEG/EKG/ECG Technician	40,956	100%	⌄⌄	$50,132
9	AWS Certified Welder	26,143	57%	⌄⌄	$42,652
10	NCCT Medical Assistant	17,247	28%	⌄⌄	$31,330

SOUTH CAROLINA

Legend (Supply/Demand Category):
- Very Undersupplied
- Moderately Undersupplied
- Moderately Oversupplied
- Supply Meets Demand
- Very Oversupplied

	Top Credentials by Demand	Credentials Demanded	Supply/Demand Category
1	Microsoft Office Specialist	46,171	Very Oversupplied
2	Licensed Practical Nurse	5,286	Very Oversupplied
3	Certified Medical Assistant	3,233	Very Oversupplied
4	Dental Assistant	3,060	Very Oversupplied
5	Automotive Service Excellence Certification	2,774	Very Oversupplied
6	Certified Pharmacy Technician	2,313	Very Oversupplied
7	EMT / Paramedic License	1,961	Very Oversupplied
8	QuickBooks Certified User	1,496	Very Oversupplied
9	Adobe Certified Associate	1,399	Very Oversupplied
10	Adobe Certified Expert	1,399	Very Oversupplied

	Top Credentials Earned	Credentials Earned	Supply/Demand Category
1	Basic First Aid	2,974	Very Undersupplied
2	Microsoft Office Specialist	1,901	Moderately Undersupplied
3	EVERFI - Ignition	668	Very Undersupplied
4	ServSafe Certification (Manager/Food Handler/Allergens/Alcohol)	663	Moderately Undersupplied
5	EVERFI - Financial Literacy	342	Very Undersupplied
6	OSHA 10-Hour - General	299	Very Undersupplied
7	National Health Science Assessment	276	Very Undersupplied
8	Heads Up: Concussion in Youth Sports	265	Very Undersupplied
9	NFHS - Heat Illness Prevention	237	Very Undersupplied
10	Automotive Service Excellence Certification	235	Very Oversupplied

FINDING: Many credentials are not explicitly requested in employer job listings, despite the fact the credentials may be required or desired for the position.

The lack of employers signaling or directly communicating the need for credentials contributes to misalignment.

No Data   Low Alignment   Moderate Alignment   High Alignment

While employers may value credentials, they may not specify their value in job postings or communicate that value to students and prospective employees.

Most employers do not request credentials to prove software competence, even when the underlying skill is desired or required.

Where Credentials Meet the Market
Effect of Earning an Industry Credential on CTE Student Outcomes

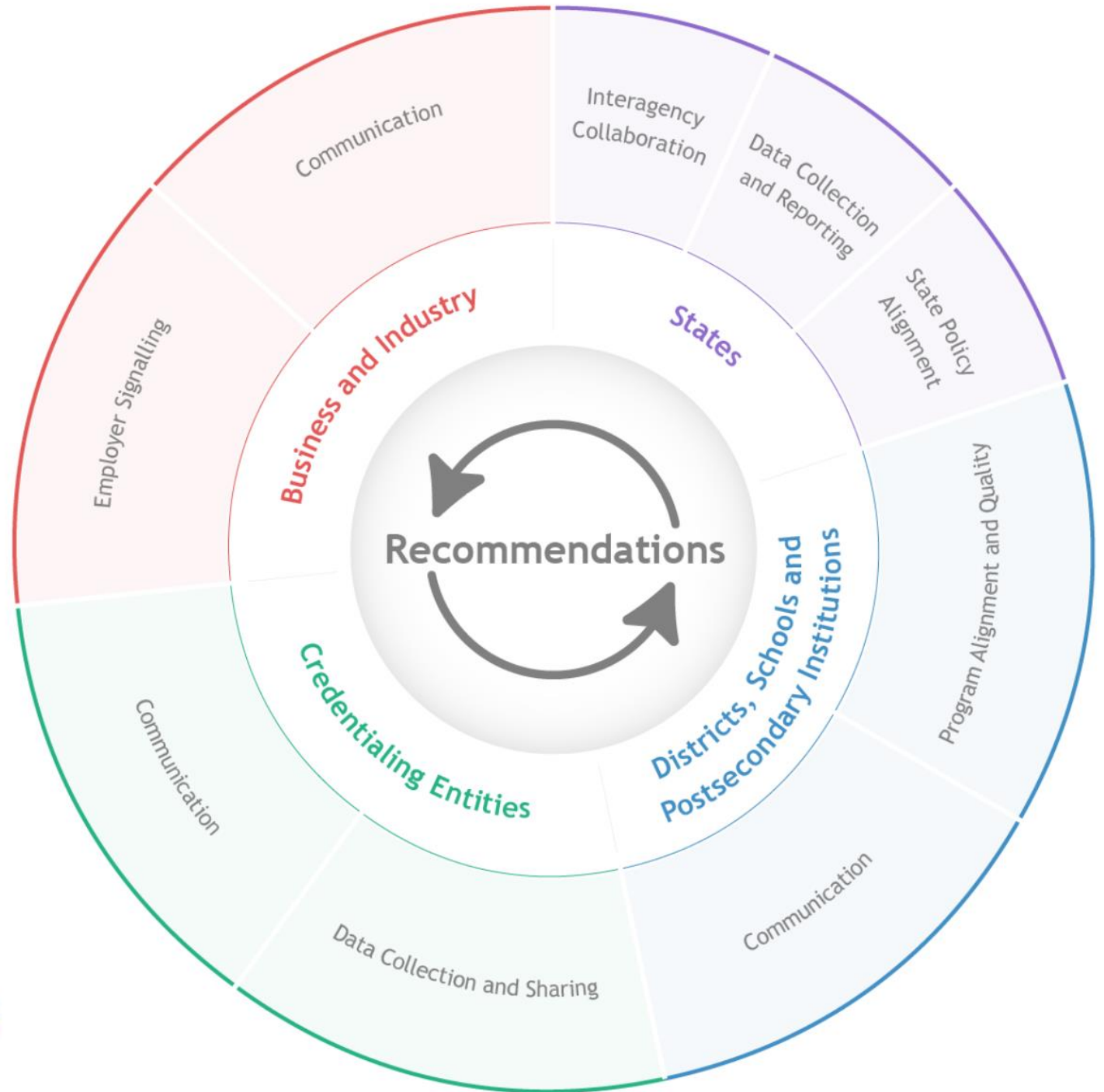|	Florida	Indiana	Kentucky
Graduating from High School on Time	+	+	+
Enrolling in Community College	+	N/A	N/A
Graduating from Community College/Earning an Associate's Degree, Conditional on Enrollment	+	N/A	+
Enrolling in University	+	N/A	N/A
Graduating from University/Earning a Bachelor's Degree, Conditional on Enrollment	No Effect	N/A	−
Wages for Full-Time Workers after High School	+	+	N/A

Some credentials matter more than others.

*Of the three types of credentials earned in Florida, certifications, licenses and software credentials, **only certifications** were associated with a wage increase (approximately 12%).*

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Recommendations

All stakeholders must play a role in improving alignment to ensure that students are successful.

Recommendations

Business and Industry
- Communication
- Employer Signalling

States
- Interagency Collaboration
- Data Collection and Reporting
- State Policy Alignment

Districts, Schools and Postsecondary Institutions
- Program Alignment and Quality
- Communication

Credentialing Entities
- Communication
- Data Collection and Sharing

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Recommendations

- **States**: Convene stakeholders to implement policies and processes that leverage data on credential attainment and workforce demands to ensure alignment between education systems and the workforce.

- **Districts, Schools and Postsecondary Institutions:** Improve alignment between program offerings, credentials available and workforce demands.

- **Business and Industry**: Improve employer signaling to better communicate specific needs and the advantages that various credentials provide.

- **Credentialing Entities:** Increase capacity and willingness to provide states with data that can be integrated into their data systems to evaluate the return on investment of credentials for students and the workforce.

Recommendations for States

**Phase One: Identify State Priorities and Establish Credential Definitions**

- Regularly audit the state's CTE program for quality and alignment.
- Codify a process and criteria to annually identify and approve the state's valued credentials.
- Establish statewide industry-recognized credential definitions across state agencies

Phase Two: Align State Policy and Improve Data Collection

- Establish secondary-postsecondary articulation of credentials
- Establish Data-sharing agreements with vendors
- Integrate systems to match credential attainment with postsecondary and employment data

Phase Three: Leverage High-Quality Data to Support State Goals and Local Implementation

- Provide regional and local labor market data to support local offerings and evaluate trends in alignment.
- Include credential attainment in Perkins V local application approval processes.
- Align ESSA, Perkins V, WIOA and state accountability and transparency systems to reward schools and districts that have high percentages of students earning valued credentials.

Credentials Matter Resources
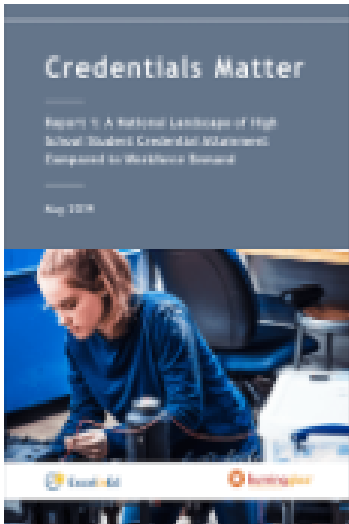
A National Landscape of High School Student Credential Attainment Compared to Workforce Demand explores the state of credential data collection and alignment with workforce demands across all 50 states. This report offers recommendations for state policymakers, industry credentialing entities, educators and employers to work together to ensure all students have access to credentials that lead to high-skill, high-wage, in-demand careers in their state.

Where Credentials Meet the Market examines the impact of credential attainment on long-term student outcomes in Florida, Indiana and Kentucky—three states that collect rich, student-level data. Specifically, the report analyzes the credentials students earn in high school and their impact on students' high school completion, community college enrollment and completion, and wages.

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Questions/Discussion

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Thank You!

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